REMARKS

Claims 1 to 17 and 19 to 27 have been cancelled. New Claims 28 to 54 have been inserted and are drawn to the elected invention.

Restriction to one of the following inventions has been required under 35 U.S.C. 121:

I Claims 1 to 12 and 20 to 24, drawn to a method of making a coated aluminum foil, classified in Class 427, Subclass 374.1.

II Claims 14 to 17 and 26, drawn to a package comprising a coated aluminium foil, classified in Class 428, Subclass 35.7.

III Claims 19 and 27, drawn to a process of packaging moist animal feed, classified in Class 53, Subclass 393.

Group III now also includes Claims 13 and 25.

The Office Action stated that, during a telephone conversation with Ms. Kara Armstrong on ay 23, 2002, a provisional election was made without traverse to prosecute the invention of Group I, Claims 1 to 13, 19 to 25 and 27. Applicants affirm this election. The Office Action stated that Claims 13, 19, 25 and 27 were further restricted out from Group I and placed in Group III during a telephone conversation with Mr. Virgil Marsh on June 19, 2002, therefore making Group I to be Claims 1 to 12 and Claims 20 to 24. Applicants affirm this election. The Office Action stated that Claims 12 and 24 were further restricted to elect one of species: during a telephone with Mr. Virgil Marsh on August 23, 2002, propylene modified with maleic anhydride (MAH) was elected for examination

Applicants affirm this election. The Office Action stated that affirmation of these elections must be made by applicants in replying to this Office Action. Applicants affirm their elections.

The Office Action stated that Claims 13 to 17, 19, and 25 to 27 have been withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a nonelected invention. The withdrawn claims are drawn to two nonelected inventions. Applicants reserve the right to file divisional and/or continuing applications drawn to the nonelected inventions.

The Abstract has been corrected and submitted on the attached separate sheet.

The disclosure has been objected to because of the following informalities: page 1, line 2, "sterilisable" should be changed to -- sterilizible--.

This objection should be withdrawn.

Claims 1, 4 and 12 have been objected to because of the following informalities:

Claim 1, line 2, "sterilisable" should be changed to --sterilizable--.

Claim 4, line 4, "To" should be changed to --Tk--.

Claim 12, line 6, "where Aa" should be changed to --AA--.

These matters have been corrected in the new claims.

This objection should be withdrawn.

Claims 9, 12 and 24 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The Office Action stated: that, in Claim 9, line 3, the language of phrase "is passed through water where applicable ice-cooled" renders the claim indefinite because the phrase appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors; and that for examining purposes the phrase was interpreted as --is passed through ice-cooled water--.

The new claim eliminates this problem.

The Office Action stated: that Claims 12 and 24 are generally narrative and indefinite, failing to conform to the current U.S. practice; that they appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors; and that, for examining puposes, the claims were interpreted as --The process of claim 11, wherein an adhesion with a monomer selected from the group consisting of E.AA, ..., where AA is acrylic acid, ..., MAH is maleric anhydride and VA is vinyl acetate.

The new claims eliminate these problems.

This rejection should be withdrawn.

Claims 1 to 6, 8, 9, 11, 12, 20, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (U.S. Patent No. 5,837,360) in view of Williams et al. (U.S. Patent No. 4,119,479) and Shaul et al. (U.S. Patent No. 3,925,138). Applicants traverse rejection.

The Office Action stated that Takano et al. discloses a process for production of a steel sheet coated with a sealable and sterilizable plastic (B) based on polypropylene (PP) (see column 1, lines 9 to17) such as random propylene-ethylene copolymer (see column 6, lines 53 to 55), wherein plastic is coextruded with an adhesion promoting agent (A) and combined with the steel sheet forming a laminate (see column 5, lines 23 to 28), the steel sheet is desirably preheated to a temperature 140°C in order to retard crystallization of (A) and (B) layers (see column 5, lines 29 to 51); then quenching (cooling in a shock-like manner) the (A) and (B) layers such that the crystalline proportion at least in the surface area of the cooled PP layer(B) and the crystal grains in this area are as small as possible(see column 4, lines 40 to 43, and column 5, lines 48 to 67). Applicants traverse this statement. Among other things, Takano et al. requires that the temperature of the formed laminate, at the time of formation, be above the crystallization temperature of the plastic.

Takano et al. extrudes a coextrudate onto the preheated steel sheet that has been preheated to a temperature above that at which the acid-modified polypropylene (A) crystallizes. The melted acid-modified polypropylene (A) (coextruded at 200° to 270°C) immediately cools to the temperature of the preheated steel sheet(see column 6, lines 56 and 57). The temperature of the steel sheet and the coextrudate thereon is typically 140°C (see column 5, lines 42 to 45, and the examples). The steel sheet with the coextrudate thereon is cooled at a rate of at least 20°C/sec so that the crystallization of the acid-modified polypropylene (A) and the polypropylene (B) is not more than 55 percent. The process disclosed in Takano et al. does not teach or suggest applicants' claimed process.

Applicants extrude a coextrudate onto the aluminum foil and then heats the aluminum foil with the coextrudate thereon by continuously passing it through an oven at a temperature set so that the temperature of the surface of the polypropylene coating and the acid-modified polypropylene lies above the crystallite melt point of the polypropylene. The coextruded-coated aluminum foil

is then immediately shock-like cooled (e.g., at least 10°C) so that the crystalline proportion at least in the surface area of the cooled polypropylene coating and the crystal grains in this area are as small as possible.

Since the oven heating requires that the temperature of the surface of the polypropylene coating and the acid-modified polypropylene of the exiting coextruded-coated aluminum coating lies above the crystallite melt point of the polypropylene, the temperature of the surface of the polypropylene coating and the acid-modified polypropylene of the coextruded-coated aluminum entering the oven lies below the crystallite melt point of the polypropylene. This is implicit disclosure in applicants' specification. Original independent process Claim 1, for example, did not recite increasing the crystalline melt point temperature of the polypropylene, so the temperature (of the surface of polypropylene and the acid-modified polypropylene) had to be below the crystalline melt point temperature of the polypropylene. In this manner, applicants' process is substantially and unobviously different from the process of Takano et al.

New Claim 48 recites that the metal foil is at room temperature when it is combined with the coextrudate. The Takano et al. process requires that the preheating of the metal foil be at least 100°C before the metal foil is combined with an extrudate/coextrudate. Applicants' detailed description of the production process of Figure 1 does not recite a temperature for aluminum foil 10 before being combined with the coextrudate, so, in accordance with scientific/technical practice, aluminum foil 10 was at room temperature.

Applicants have amended the specification to recite overtly that which is implicit disclosure in the specification.

The Office Action stated that Takano et al. fails to teach that the formed laminate is heated using an oven; and the (A) and (B) layers are laminated to aluminum foil. Takano et al. does not teach or suggest several more important steps, limitations, etc., including the following:

(1) Takano et al. does not teach or suggest not preheating the aluminum foil so that the coextrudate coating reaches a temperature above the crystallite melt point.

(2) Takano et al. does not teach or suggest heating the formed coextrudate-coating steel sheet in an oven (or any other way) to achieve the coextrudate-coating being above the crystallite melt point because when the laminate is formed, it is already at a temperature above the crystallite melt point (due to the preheating of the steel sheet). Takano et al. even says overheating is an economic waste. There is no heating in Takano et al. after laminate formation.

To try to insert a heating step into Takano et al. after lamination formation is classical hindsight. There is no motivation to combine Takano et al. and Shaul et al. in the search for applicants' claimed process. In fact, the record provides reasons not to seek such a combination. The Examiner has no factual basis or reason to try to destroy the very invention of Takano et al. by eliminating its preheating step, then instead using the sequence of a lamination step followed with a heating (in an oven) step.

The Office Action stated that, as to the formed laminate being heated using an oven, it is well-known and conventional in the art to use an oven for heating coated aluminum foil, as evidenced by Shaul et al. (see column 4, lines 49 to 53). Applicants traverse this statement. Shaul et al. is not relevant to

Takano et al. since Takano et al. preheats its steel sheet so that the formed laminate is at a temperature above the crystalline formation temperature of its coextruded coating. The Examiner has not factually showing in the record why one ordinarily skilled in the art would throw out the preheating scheme of Takano et al. and use a heating scheme after the laminate is formed. Furthermore, Shaul et al. is not generic in scope and only deals with using an oven to cure a phenyl-methyl-silicone resin (with a hardener). Shaul et al. does not teach or suggest using an oven to raise the temperature above the melt temperature, or the crystallite melt temperature, of an organic coating. The Examiner has not factually shown that curing involves melting.

The Office Action stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an oven for heating a laminated (coated) aluminum foil of Takano et al. since Shaul et al. shows that it is well known and conventional in the art to use an oven for heating coated aluminum foil. Applicants traverse this statement. While it might be obvious to use an oven to preheat the steel sheet of Takano et al., note that Takano et al. does not heat its coextrudate-coated laminate once the laminate has been formed. Shaul et al. has nothing to do with Takano et al. so the Examiner's attempted combination of rejection references is clearly incorrect.

The Office Action stated that, as to the (A) and (B) layers being laminated to aluminum foil, Williams et al. teaches metal foil packaging materials comprising laminates with coextruded PP and bonding layers (see column 2,

lines 45, 46, 54 and 55, and column 4, lines 27 to 55) can be made using foils of any metal including steel, aluminum, etc., (see column 2, lines 18 to 25). Applicants traverse this statement. Williams et al. is not a relevant reference except that it teaches away from applicants' claimed invention. Williams et al. teaches packaging materials in the form of a sandwich comprising a layer of a metal foil, a layer of a thermoplastic polymer and an interlayer formed from a radiation-curable composition. The metal foil is bonded to the thermoplastic polymer by irradiating the interlayer through the layer of thermoplastic polymer thereby curing the interlayer and bonding it to both the metal foil and the thermoplastic polymer. The metal foil may be an aluminum foil, and the thermoplastic polymer may be a polypropylene. The following processes for forming the Williams et al. sandwich are disclosed:

1. Either the surface of the metal foil or the surface of the plastic film is coated with the radiation-curable composition. The coated surface is then pressed against the uncoated surface.
2. The radiation-curable composition is coated on the surface of the metal foil. A molten thermoplastic polymer is then extruded onto the coated foil and the sandwich is then pressed together.

In both processes coating of the metal foil or thermoplastic film with the radiation-curable composition can be carried out by extrusion coating. However, Williams et al. does not disclose coextrusion of the thermoplastic-polymer and the radiation-curable composition as incorrectly asserted by

the Examiner.

Williams et al. uses irradiation to cure. Thus, Williams et al. directs away from the use of heating, for any purpose.

The Office Action stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used aluminum foil instead of steel sheet in Takano et al. since Williams et al. teaches that either steel or aluminum foil can be used for making laminates with coextruded PP and bonding layers. Applicants traverse this statement for the above reasons. Williams et al., for example, does not show coextrusion.

There is no motivation to combine Shaul et al. and/or Williams et al. with Takano et al. Besides, the addition of either or both secondary references to Williams et al. would destroy Williams et al.'s invention.

The Office Action stated: that, as to Claim 2, Takano et al. teaches that the metal sheet is desirably preheated to a temperature of 140°C, which is at least 20°C above crystallite melt point (T_K) of (A) (see column 5, lines 42 to 58); and that, however, Takano et al. does not expressly show that the crystallite melt point (T_K) of the plastic (B) is not higher than 120°C so that the temperature of the heated laminate lies at least 20°C above the T_K of (B). Takano et al. forms a laminate with a preheated steel sheet so that the coextruded coating is above the crystallization temperature. Takano et al. does not teach or suggest <u>not</u> heating until after the laminate is formed.

The Office Action stated: that Takano et al. teaches that the crystallinity

of (A) layer of no more than 55 % is obtained by initiating quenching of the heated laminate at a temperature higher than T_K of (A), i.e., before the crystallization of the (A) begins, in order to retard crystallization (see column 5, lines 45 to 58); that, since Takano et al. teaches that the crystallinity of (B) layer is also not more than 55 % (see column 2, lines 9 to 11; and column 4, lines 23 to 31), it is clear that starting quenching temperature of 120°C should be higher than T_K of both (A) and (B) layers, i.e., before the crystallization of the both (A) and (B) layers begins; and that, in other words, the crystallite melt point (T_K) of the plastic (B) is not higher than 120°C so that the temperature of the heated laminate of at least 140°C (see column 5, lines 36 to 43) lies at least 20°C above the T_K of (B). This statement has little, or nothing, to do with applicants' process because Takano et al. does not heat the laminate after it is formed.

The Office Action stated that, as to Claims 3 and 20, Takano et al. teaches that the start temperature (T_S) for the shock-like cooling of the (A) and (B) layers lies above the crystallite melt point (T_K) of PP based layers and the end temperature (T_E) of the shock-like cooling lies at least 40°C below the crystallite melt point (T_K) (see column 5, lines 42 to 63). Takano et al. directs away from applicants' claimed process because Takano et al. only heats before the laminate is formed.

The Office Action stated that, as to Claim 4, Takano et al. teaches that the end temperature (T_E) of the shock-like cooling is at least 60°C (see column 5,

lines 59 to 63). Takano et al. does not teach or suggest heating to crystallite melt temperature after formation of the laminate.

The Office Action stated that, as to Claims 5 and 21, Takano et al. teaches that the shock-like cooling speed is greater than 10°C/sec (see column 6, lines 10 to 12). The same processes are not involved.

The Office Action stated that, as to Claim 6, Takano et al. teaches that the shock-like cooling speed (VA) is greater than 50°C/sec. preferably greater than 100°C/sec (see column 6, lines 10 to 12). Takano et al. directs away from applicants' claimed process.

The Office Action stated that, as to Claims 8 and 23, Takano et al. teaches that the shock-like cooling is carried out by direct cooling by means of a liquid or gaseous coolant (see column 6, lines 24 to 27). Takano et al. directs away from applicants' claimed process.

The Office Action stated: that, as to Claims 9 and 11, Takano et al. teaches that the shock-like cooling can be carried out by any means provided that cooling conditions are satisfied (see column 6, lines 24 to 27); and that, however, Takano et al. fails to teach that the shock-like cooling can be carried out by ice-cooled water (Claim 9) or cooled air (Claim 11). Takano et al. does not teach or suggest heating to crystallite melt temperature after formation of the laminate.

The Office Action stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have carried out

the shock-like cooling in a process of Takano et al. by ice-cooled water or cooled air with the expectation of providing the desired cooling conditions since Takano et al. teaches that the shock-like cooling can be carried out by any means provided that cooling conditions are satisfied. Takano et al. does not teach or suggest applicants' claimed invention as a whole.

The Office Action stated that, as to Claims 12 and 24, Takano et al. teaches that the adhesion promoting agent is PP modified with unsaturated acid or derivatives thereof such as AA, AE, MA and MAH (maleic anhydride), (see column 2, lines 1, 54, 55 and 61 to 67; and column 3, lines 1 to 6). The preheating feature of Takano et al. makes applicants' claimed process unobvious, even if combined with Shaul et al. and/or Williams et al.

This rejection should be withdrawn.

Claims 7, 10 and 22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (U.S. Patent No. 5,837,360) in view of Williams et al. (U.S. Patent No. 4,119,479) and Shaul et al. (U.S. Patent No. 3,925,138), as applied above, and further in view of Levendusky et al. (U.S. Patent No. 5,919,517). Applicants traverse this rejection.

Applicants have shown above that applicants' claimed invention is unobvious over Takano et al., Shaul et al. and Williams et al. Levendusky et al. adds nothing to cure the defects of such attempted combination of references.

The Office Action stated: that the combination of Takano et al., Williams et al. and Shaul et al. teaches that the shock-like cooling can be

carried out by any means provided that cooling conditions are satisfied (see Takano et al., column 6, lines 24 to 27); and that, however, the combination of Takano et al., Williams et al. and Shaul et al. fails to teach that said means include water spray (Claim 10) or partial looping over at least one cooled roller (Claims 7 and 22). The combination of such three rejection references does not result in and directs away from applicants' claimed invention.

The Office Action stated that Levendusky et al. teaches that water spray or partial looping of a metal foil containing laminate over at least one cooled roller can be used for shock-like cooling of the laminate (see column 3, lines 29 to 60; column 12, lines 23 and 24; and column 14, lines 34 to 53). This does not make applicants' claimed invention obvious as a whole.

The Office Action stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used water spray or partial looping over at least one cooled roller of a metal foil containing laminate in a process of combination of Takano et al., Williams et al. and Shaul et al. with the expectation of providing the desired shock-like cooling of the laminate, since Levendusky et al. teaches that use of water spray or partial looping of a metal foil containing laminate over at least one cooled roller can be successfully used for shock-like cooling of the laminate. Applicants traverse this

statement. The attempted combination of the four rejection references does not make applicants' claimed process obvious.

This rejection should be withdrawn.

Claims 13 and 25 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants traverse rejection.

The Office Action stated: that Claim 13 provides for the use of a coated aluminum foil of Claim 12 comprising producing a package for moist animal feed, but, since the claim does not set forth any steps involved in a method/process, it is unclear what method/process applicant is intending to encompass; and that a claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Applicants traverse this statement. The word "producing" is an active, positive, action verb that is a process step. Webster's Seventh New Collegiate Dictionary, (1963), states:

> "produce***vb***5: to give being, form, or shape to : make; exp: manufacture***vi: to bear, make, or yield something" [Page 679]

The claim recites "using", not "a use". The word "using is an active, positive, action verb that is a process step.

The Office Action stated: that Claim 25 provides for the use of a coated aluminum foil of Claim 12 comprising producing a package for moist animal feed, but, since the claims does not set forth any steps involved in the

method/process, it is unclear what method/process applicant is intending to encompass; and that a claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Applicants traverse this statement. Both words are active, positive, action verbs.

This rejection should be withdrawn.

Claim 13 has been rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. Applicants traverse this rejection for the above reasons.

The Office Action stated see, for example, *Ex parte Dunki*, 153 USPQ 678, (Bd.App. 1967), and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475, (D.D.C. 1966). These decisions are not relevant because they only deal with the noun "use".

This rejection should be withdrawn.

Claim 25 has been rejected under 35 U.S.C.101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. Applicants traverse this rejection for the above reasons.

The Office Action stated see, for example, *Ex parte Dunki*, 153 USPQ 678, (Bd.App. 1967), and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131,

149 USPQ 475, (D.D.C. 1966). These decisions are not relevant because they only deal with the noun use.

This rejection should be withdrawn.

Reconsideration, reexamination and allowance of the claims are requested.

Respectfully submitted,

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Date: Mar. 26, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1 to 17 and 19 to 27 have been cancelled.

New Claims 28 to 54 have been inserted.

In the Abstract:

The original abstract has been cancelled and the new Abstract has been inserted on the attached separate page.

In the Title:

The Title has been cancelled.

The following new Title has been inserted on the top of page 1:

PROCESS FOR PRODUCTION OF A PLASTIC-COATED ALUMINUM FOIL AND PACKAGING MADE FROM THIS

In the Specification:

The original paragraph on page 1, lines 4 to 8, has been replaced with the following rewritten version on page 1, lines 4 to 8, as amended.

The invention concerns a process for production of an aluminum foil coated with a sealable and [sterilisable] sterilizible plastic based on polypropylene (PP) or polyethylene(PE). The scope of the invention also includes packaging made from the coated aluminum foil and its use.

The following paragraph has been inserted on page 1, line 9:

The temperature of the aluminum foil, with which the coextruded plastic and adhesion-promotion agent is being combined, is such that the temperature

at the surface of the plastic coating and the adhesion-promotion agent lies below the crystallite melt point (T_K) of the plastic.